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Subject: VESDA and Halon Systems at Dzero

Vesda Systems

There are 9 separate VESDA systems at Dzero. The VESDA systems are tested and maintained by the Fire Protection Group of the Facilities Engineering Services (FESS).

1. Cathedral - The high sensitivity smoke detector (HSSD) is installed on the west platform porch. Its intake system is a tube that has branches on top of the east and west silicon interface racks inside the cathedral. Its controller is located on top of the moving counting house (MCH). A contact in the controller is cabled back to the west platform and used as an interlock for the silicon microtracker power supplies.
2. Calorimeter Preamp - The HSSD is installed on the west platform porch. Its intake system is a tube that connects to a series of manifolds that have sampling tubes extending into the calorimeter preamps. Its controller is located on top of the MCH. A contact in the controller is cabled back to the west platform and used as an interlock for the calorimeter power supplies.
3. Platform - The HSSD is installed on the west platform porch. Its intake system is a tube system that senses the air in the north, central, and south platform areas. Its controller is located on top of the MCH. A contact in the controller is cabled back to the west platform and used as an interlock for the VLPC power supplies. Fire klaxons and fire department dispatch result from a level 3 alarm.
4. Central Truss - The HSSD is installed on the west platform porch. Its intake system is a tube system that runs along each level of the east and west central trusses. Its controller is located on top of the MCH. A contact in the controller is cabled back to the west platform and is available but not used as an interlock. Fire klaxons and fire department dispatch result from a level 3 alarm.
5. North AB Truss - The HSSD is installed on top of the truss approximately in the center. Its intake system is a tube that runs across the top and down the sides of the truss with sample points at each level and on top. Its controller is located on top of the MCH. This system provides information to the monitor and to FIRUS but does not provide any interlocks.
6. North C Truss - The HSSD is installed on top of the truss approximately in the center. Its intake system is a tube that runs across the top and down the sides of the truss with sample points at each level and on top. Its controller is located on top of the MCH. This system provides information to the HSSD monitor, and to FIRUS, and to the building fire panel; but does not provide any interlocks. However, the building fire panel uses this zone's input as a major sensor. Fire klaxons and fire department dispatch result from a level 3 alarm.
7. South AB Truss - The HSSD is installed on top of the truss approximately in the center. Its intake system is a tube that runs across the top and down the sides of the truss with sample points at each level and on top. Its controller is located on top of the MCH. This system provides information to the monitor and to FIRUS but does not provide any interlocks.
8. South C Truss - The HSSD is installed on top of the truss approximately in the center. Its intake system is a tube that runs across the top and down the sides of the truss with sample points at each level and on top. Its controller is located on top of the MCH. This system provides information to the HSSD monitor, and to FIRUS, and to the building fire panel; but does not provide any interlocks. However, the building fire panel uses this zone's input as a major sensor. Fire klaxons and fire department dispatch result from a level 3 alarm.
9. Trigger Framework in MCH-1 - The HSSD is installed in the west-most rack of the level I trigger processor apparatus in MCH-1. Its intake system is a tube that runs across the top of the south Trigger Racks and then across to Trigger Racks on the north side of the room. There are sample points in the south and north racks. Its controller is located on top of MCH. A contact in the controller is cabled back to the Trigger Racks and is used as an interlock for the Trigger Rack AC power.

Halon Systems

There are seven halon systems at Dzero. The halon systems are maintained by the **Fire Protection Group** of the FESS.

1. South East Pit/South East Collision Hall - This system is shared by the pit and collision hall depending on which area is in service. The system is manually operated either by a control panel in the control room, or a control panel in the lobby depending on the position of a key switch in the lobby control panel.
2. North East Pit/North East Collision Hall - This system is shared by the pit and collision hall depending on which area is in service. The system is manually operated either by a control panel in the control room, or a control panel in the lobby depending on the position of a key switch in the lobby control panel.
3. MCH-1, MCH-2, MCH-3 - These three independent systems are located on the first, second, and third floors of the moving counting house. These are automatic systems. They are controlled by smoke detectors underneath the floors (cooling air space). The detectors are of both types (ionizing and photoelectric). At least one of EACH type must indicate smoke to trigger a halon dump.
4. FCH -1 FCH-2 - These two independent systems are located on the first and second floors of the fixed counting house (FCH). These are automatic systems. They are controlled by smoke detectors underneath the floors (cooling air space). The detectors are of both types (ionizing and photoelectric). At least one of EACH type must indicate smoke to trigger a halon dump. A manual abort switch is located in the control room for the FCH-1 system.